

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>18112 PCT</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. <b>PCT/US2004/022213</b>	International filing date (day/month/year) <b>09/07/2004</b>	(Earliest) Priority Date (day/month/year) <b>16/10/2003</b>
Applicant  <b>CONTINENTAL PET TECHNOLOGIES, INC.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box II).

3. ☐ Unity of invention is lacking (see Box III).

### 4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

### 5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

### 6. With regards to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☒ none of the figures is to be published with the abstract.

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B32B27/08 B32B7/10 B29B11/14

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C08L B29B C08G B32B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 752 452 A (VERITAS GUMMIWERKE AG) 20 February 1998 (1998-02-20) claims 1,3,13	21-48
Y	page 3, line 1 - line 2 page 3, line 26 - line 31	1-24, 49-61
Y	EP 0 732 363 A (SOLVAY) 18 September 1996 (1996-09-18) claims 1-4 page 2, line 33 - page 3, line 20 ----- -/--	1-24

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

3 November 2004

Date of mailing of the international search report

15/11/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Girard, S

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 362 784 A (BRODIE III VINCENT ET AL) 8 November 1994 (1994-11-08) claims 1-3,7,10,11 column 1, line 49 - line 68 column 2, line 33 - line 42 column 2, line 62 - column 3, line 68 column 4, line 64 - column 5, line 49 -----	11-24, 49-61
Y	DATABASE WPI Section Ch, Week 198647 Derwent Publications Ltd., London, GB; Class E36, AN 1986-308718 XP002303604 & JP 61 227821 A (KAWASAKI HEAVY IND LTD) 9 October 1986 (1986-10-09) abstract -----	49-61
X	US 5 804 670 A (STOEPPELMANN GEORG) 8 September 1998 (1998-09-08) claims 1,2,6 column 2, line 29 - line 67 column 4, line 33 - line 52 -----	1-48
X	EP 1 188 552 A (VERITAS AG) 20 March 2002 (2002-03-20) claims 1,2,4 page 2, paragraph 4-6 -----	21-48

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
FR 2752452	A	20-02-1998	DE FR	19633133 C1 2752452 A1	05-03-1998 20-02-1998
EP 0732363	A	18-09-1996	BE AT BR CA DE DE EP US	1009189 A3 183218 T 9601004 A 2170944 A1 69603636 D1 69603636 T2 0732363 A1 5779954 A	03-12-1996 15-08-1999 30-12-1997 15-09-1996 16-09-1999 09-03-2000 18-09-1996 14-07-1998
US 5362784	A	08-11-1994	AU CA EP WO	6835294 A 2162840 A1 0700416 A1 9428068 A1	20-12-1994 08-12-1994 13-03-1996 08-12-1994
JP 61227821	A	09-10-1986	JP JP	1641754 C 3007413 B	18-02-1992 01-02-1991
US 5804670	A	08-09-1998	DE DE EP JP US US	19537003 A1 59606493 D1 0767190 A1 9194815 A 5869157 A 5869190 A	10-04-1997 05-04-2001 09-04-1997 29-07-1997 09-02-1999 09-02-1999
EP 1188552	A	20-03-2002	DE EP	10045165 A1 1188552 A2	04-04-2002 20-03-2002

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

2 MONTH REMINDER 12/15/04  
1 MONTH REMINDER 11/15/05  
2 WEEK REMINDER 2/12/05  
3 DAY REMINDER 2/15/05  
ACTION DUE AND DATE 2/15/05  
JCH/1

To:

see form PCT/ISA/220

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCTUS2004/022213

International filing date (day/month/year)  
09.07.2004

Priority date (day/month/year)  
16.10.2003

International Patent Classification (IPC) or both national classification and IPC  
B32B27/08, B32B7/10, B29B11/14

Applicant  
CONTINENTAL PET TECHNOLOGIES, INC.

### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk - Pays Bas  
Tel. +31 70 340 - 2040 Tx: 31 651 epo nl  
Fax: +31 70 340 - 3016

Authorized Officer

Girard, S

Telephone No. +31 70 340-4187



---

**Box No. I Basis of the opinion**

---

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating there has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2004/022213

---

**Box No. II Priority**

---

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

---

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

---

1. Statement

Novelty (N)	Yes: Claims	49-61
	No: Claims	1-48
Inventive step (IS)	Yes: Claims	-
	No: Claims	1-61
Industrial applicability (IA)	Yes: Claims	1-61
	No: Claims	-

2. Citations and explanations

see separate sheet

Re Item V.

1 The following documents are referred to in this communication:

- D1: FR-A-2 752 452 (VERITAS GUMMIWERKE AG) 20 February 1998 (1998-02-20)
- D2: EP 0 732 363 A (SOLVAY) 18 September 1996 (1996-09-18)
- D3: US 5 804 670 A (STOEPPELMANN GEORG) 8 September 1998 (1998-09-08)
- D4: DATABASE WPI Section Ch, Week 198647 Derwent Publications Ltd., London, GB; Class E36, AN 1986-308718 XP002303604 & JP 61 227821 A (KAWASAKI HEAVY IND LTD) 9 October 1986 (1986-10-09)
- D5: US-A-5 804 670 (STOEPPELMANN GEORG) 8 September 1998 (1998-09-08)
- D6: EP 1 188 552 A (VERITAS AG) 20 March 2002 (2002-03-20)

2 INDEPENDENT CLAIMS 1,10,11,21,25,33,41

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claims 1,11,21,25,33 and 41 is not novel in the sense of Article 33(2)PCT.

2.1.1 Document D5, which is considered to represent the most relevant state of the art to the subject matter of claim 1, discloses (the references in parenthesis applying to this document): a mixture of polyamide and alkylene diamine which, when formed in a film, improves adhesion between fluorinated polymers and polyamides. Its use in multilayered structures such as moulded parts and hollow bodies and profiles is as well described therein (claims 1,2,6; col.2, lines 29-67; col.4, lines 33-52).

2.2 Moreover, starting from document D2, the subject-matter of claims 1,10,11,20,21,25,33 and 41 appears to lack an inventive step in the sense of Art.33(3) PCT.

2.2.1 D2 discloses a monolayered preform for blow moulding a plastic container,



consisting of a mixture of a thermoplastic resin, preferably high density polyethylene, and a polyalkyleneimine (claims 1-4; page 2, line 33-page 3, line 20). The subject-matter of independent claim 1 differs from the disclosure of D2 in that (i) the structure is multilayered, and (ii) the polyethylene imine is specified as imparting adhesive properties to the layer it is blended with.

- 2.2.2 The problem to be solved by the present invention may therefore be regarded as providing an alternative structure with improved interlaminar adhesive properties.
- 2.2.3 However, document D1 discloses a two layered fuel pipe comprising one fluorinated layer attached to a layer made from a blend of a resin (polyamide, polypropylene, polyester) and polyethylene imine, which promotes adhesion of the layer is it blended with to said fluorinated layer (**claims 1,3,13; page 3, lines 1-2 and lines 26-31**).
- 2.2.4 Therefore the features disclosed in D1 and D2 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claims 1,10,11,20,21,25,33 and 41 thus cannot be considered inventive (Article 33(3) PCT).
- 2.3 The attention of the Applicant is drawn to document D6, which is equally detrimental to novelty of independent claims 21,25 and 41.

### 3 INDEPENDENT CLAIMS 49,57

- 3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 49 and 57 is not inventive in the sense of Article 33(3) PCT.
- 3.1.1 Document D3 discloses (the references in parenthesis applying to this document): a composition comprising a blend of a polyester and a polyethylene imine and its use as a film in a laminate comprising a polyester

barrier layer for packaging applications (claims 1-3,7,10,11; col.1, lines 49-68; col.2, lines 33-42; col.2, line 62-col.3, line 68; col.4, line 64-col.5, line 49).

- 3.1.2 The subject-matter of independent claim 49 (resp. 57) differs from the disclosure of D3 in that the obtained structure resists migration of carbon dioxide.
- 3.1.3 The problem to be solved by the present invention may therefore be regarded as providing a structure with improved barrier properties towards carbon dioxide.
- 3.1.4 However, document D4 describes a porous substrate absorbent coated with a polyethylene imine composition, which is specified as providing barrier properties against carbon dioxide (**Abstract**).
- 3.1.5 Therefore the features disclosed in D3 and D4 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claims 49 and 57 thus cannot be considered inventive (Article 33(3) PCT).

#### **4 DEPENDENT CLAIMS 2-9,12-19,22-24, 26-32, 34-40, 42-48, 50-56, 58-61**

- 4.1 Dependent claims 2-9,12-19,22-24, 26-32, 34-40, 42-48, 50-56, 58-61 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

#### **5 FURTHER COMMENTS**

- 5.1 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 to D6 is not mentioned in the description, nor are these documents identified therein.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2004/022213

- 5.2 The units of weight/measure/temperature employed on pages 9,10 and 12 are not additionally expressed in terms of the units stipulated by Rule 10.1/(a)/and/(b) PCT.
- 5.3 The statement which refers to the extent of the protection being extended to cover the "spirit" of the invention, on page 14, line 22, should be deleted, since general statements in the description which imply that the extent of protection may be expanded in some vague and not precisely defined way should be objected to (PCT International Search and Preliminary Examination Guidelines 5.30).